

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE J		PAGE OF PAGES 1 2	
2. AMENDMENT/MODIFICATION NO. 0002		3. EFFECTIVE DATE 13-Feb-2004		4. REQUISITION/PURCHASE REQ. NO. W68MD9-3295-4333		5. PROJECT NO.(If applicable)	
6. ISSUED BY USA ENGINEER DISTRICT, SEATTLE ATTN: CENWS-CT 4735 EAST MARGINAL WAY SOUTH SEATTLE WA 98134-2329		CODE W912DW		7. ADMINISTERED BY (If other than item 6) See Item 6		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				<input checked="" type="checkbox"/> 9A. AMENDMENT OF SOLICITATION NO. W912DW-04-R-0007			
				<input checked="" type="checkbox"/> 9B. DATED (SEE ITEM 11) 27-Jan-2004			
				10A. MOD. OF CONTRACT/ORDER NO.			
				10B. DATED (SEE ITEM 13)			
CODE		FACILITY CODE					
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended. Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning <u>1</u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required)							
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.							
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.							
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).							
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:							
D. OTHER (Specify type of modification and authority)							
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) TITLE: DESIGN BUILD ELECTRICAL UPGRADE, HOWARD HANSON DAM, WASHINGTON 1. This Amendment (0002) provides for the following changes:							
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
				TEL: _____ EMAIL: _____			
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)		16C. DATE SIGNED 13-Feb-2004	

A. This amendment provides for the following changes:

(1) ~~Revision~~ Revisions to drawings by notation in the Special Contract Requirements after the Index of RFP Drawings (Section 00800, Attachment A).

(2) Revisions to Section 00820, STATEMENT OF WORK

B. The attached revised sections are to be replaced in their entirety. Specifications changes are generally identified, for convenience, either by strikeout for deletions, and double underlining of text for additions or a single dark line in the right hand margin. All portions of the revised or new pages shall apply whether or not changes have been indicated.

C. The site visit remains the same on Tuesday, 17 February 2004 at 10:00 a.m. Contractors are assemble at the Tacoma Headwork Parking area and will be transported through the watershed in government furnished transportation.

D. The proposal submittal time and date remains March 2, 2004 at 2:00 p.m. LOCAL TIME.

F. NOTICE TO OFFERORS: Offerors must acknowledge receipt of this amendment by number and date on offer or by telegram. Please mark outside of envelope in which your offer is enclosed to show amendment received.

Encl:

Revision to Section 00800A

Revision to Section 00820

ATTACHMENT A
INDEX OF RFP DRAWINGS

Electrical Power Line Upgrade,
Howard Hanson Dam,
Green River, Washington

DRAWING NO. E-56-41-24

SHEET NUMBER	PLATE NUMBER	TITLE	REVISION NUMBER	DATE
1	G-1	Title and Area Maps		31 OCT03
2	E-1	Power Line I		31 OCT03
3	E-2	Power Line II		31 OCT03
4	E-3	Power Line III		31 OCT03
5	E-4	Enlarged Site I		31 OCT03
6	E-5	Enlarged Site II		31 OCT03
7	E-6	Details I		31 OCT03
8	E-7	One Line Diagram and Details		31 OCT03

REVISIONS TO RFP DRAWINGS

SHEET 2:

Replace Note 1 with: "THE CONTRACTOR SHALL DESIGN AND CONSTRUCT COMPLETE NEW OVERHEAD DISTRIBUTION SYSTEM. THE ALIGNMENT OF THE NEW OVERHEAD DISTRIBUTION SYSTEM SHALL FOLLOW THE PATH OF THE EXISTING OVERHEAD DISTRIBUTION SYSTEM AS CLOSE AS POSSIBLE. THE GOVERNMENT HAS A RIGHT OF WAY EXTENDING APPROXIMATELY 200 FEET ON EITHER SIDE OF THE EXISTING OVERHEAD LINE."

Note 3: Delete

SHEET 3:

Note 2: Delete

REVISIONS TO RFP DRAWINGS (Cont.)

SHEET 4:

Note 2: Delete

SHEET 5:

General Notes

1. Delete

SECTION 00820

STATEMENT OF WORK

TABLE OF CONTENTS

PARAGRAPH NO.	PARAGRAPH TITLE
1.0	PROJECT DESCRIPTION
2.0	EXISTING CONDITIONS
3.0	DESCRIPTION OF PROPOSED CONSTRUCTION
4.0	DESIGN CRITERIA
5.0	DESIGN REQUIREMENTS

This page intentionally left blank.

SECTION 00820

STATEMENT OF WORK

1.0 PROJECT DESCRIPTION

The objective of this solicitation is to upgrade the electrical distribution system supplying power to Howard Hanson Dam (HHD) located on the Green River near Palmer, WA. This renovation is part of an overall upgrade for the Howard Hanson Additional Water Storage (HHAWS) Project. It shall consist of the removal of the existing four (4) miles of government owned overhead distribution system and the installation of a new overhead distribution system capable of supplying power for the increased electrical loads resulting from the HHAWS Project. The overhead distribution system shall be designed and constructed to provide a reliable, low maintenance, cost effective system to provide system integrity during the environmental extremes of the area. This shall include the possibility of ice build up, severe wind gusts, and tree branches falling across the line.

In addition, this project shall (1) remove the three existing 25kVA transformers at the Administration Building and provide a new pad mounted transformer, rated 75kVA at 12470V delta primary with 208/120V wye secondary, properly connected to a 12470V grounded wye distribution system, and connect the existing Administration Building's service entrance to the new transformer; (2) route new underground primary distribution cables and conduit across the dam to the left bank from the primary terminal riser pole; (3) provide a new pad mounted transformer, rated 500kVA at 12470V delta primary with 480/277V wye secondary, properly connected to a 12470V grounded wye distribution system, to serve the existing Maintenance Building and a new Administration Building (to be built by others under a separate contract); and (4) provide a 500kW standby generator with automatic transfer switch and all appurtenances for complete operation.

1.01 Site Area.

The site is described on the RFP drawings included as part of this solicitation.

1.02 Scope of Work.

The scope of work includes all design and construction of the features described in the RFP, including but not limited to, site inspection and planning, clearing, grading, environment protection, electrical power distribution systems, pavements and site restoration.

1.03 Demolition Considerations and Requirements.

To provide continuous power to HHD, the existing line shall remain energized during construction. Removal of the existing overhead line shall occur after the new line has started to supply power to the dam. The Contractor is advised that this project and the dam are subject to Federal, State, and local regulatory agency inspections to review compliance with environmental laws and regulations. Off-site disposal of construction debris without State permits and/or not in accordance with regulatory requirements will require the Contractor at his own expense to remove, transport and relocate the debris to a State approved site. The Contractor will also be required to pay any fines, penalties, or fees related to the illegal disposal of construction debris.

1.04 Location and Access Requirements.

The project is within the Green River Watershed and is subject to special access controls and work requirements as defined in the RFP documents. (See Division 1 specifications)

2.0 EXISTING CONDITIONS

The existing distribution system supplies a 75kVA load via a 3-phase, 3 wire, 12kV #6 copper overhead line. The overhead line makes a 6 mile run from the Puget Sound Energy (PSE) substation through a rural environment to the Howard Hanson Dam Administration Building. The PSE metering terminal is located at the 2 mile point on the line, which is near the Tacoma Water Department Headworks. The remaining 4 miles of overhead line, from the metering terminal to HHD, belong to the U.S. Army Corps of Engineers. The distribution system includes a load break knife switch mounted on the next pole after the meter, and on the pole at mile point 3.5, there is a 25kVA pole mounted transformer that supplies the tailwater gauge. The pole line also supports communications cables that belong to Qwest Communications. The existing ~~overhead line is along a logging road and~~ crosses over the road ~~and river~~ multiple times; ~~it also makes one crossing of the Green River~~. Since the line goes through a wooded area, reliability of the existing system has become an issue due to outages caused by tree limbs falling across the line.

2.01 Field Information.

The utility and survey information provided in the drawings is for information only, and not intended to be all-inclusive. It is provided to assist the Contractor during the design of this project. The Contractor is responsible for field verifying all information given. The Contractor is also responsible for obtaining all information necessary to properly design and install all work. Gathering information during design shall be coordinated through the Contracting Officer. Any survey required to provide utility locations, manhole inverts, verification of existing features, etc., shall be the responsibility of the Contractor and shall tie into the project datum. The Contractor is responsible for coordination with Puget Sound Energy (PSE), Tacoma Public Utilities (TPU), Burlington Northern & Santa Fe Railroad (BNSF), Qwest Communications, and all other utility companies for information and/or approvals.

When work is to occur on any pole facilities that include communication lines the Contractor shall notify the owning utility at least 72 hours in advance of the time the Contractor desires the proposed work to occur. The point of contact for PSE is Gerald (Jerry) Laster, P.E. at 425-462-3869 and for Qwest, Nancy Rayl at 253-872-3113 (3050).

3.0 DESCRIPTION OF PROPOSED CONSTRUCTION

The upgraded overhead distribution line shall be capable of supplying 3-phase power on a 4-wire system to a 1,000kVA load at 12470V with a voltage drop of less than 2.0 percent. The line shall run from the PSE metering pole to Howard Hanson Dam a distance of approximately 4 miles. The project shall also include construction of underground service to existing facilities and provisions for connections to future facilities.

Equipment and devices shall be installed and energized in accordance with the manufacturer's published instructions. The installation shall comply with the requirements and recommendations of the NESC for medium loading districts, Grade B construction. No reduction in clearance shall be made. The installation shall also comply with the applicable parts of NFPA 70.

The aerial system shall consist of wood poles, conductors, a pole mounted recloser, a pole mounted gang-operated load break switch, and a pole mounted transformer. Unless otherwise indicated, conductors shall be installed in accordance with manufacturer's approved tables of sags and tensions. Proper care shall be taken in handling and stringing conductors to avoid abrasions, sharp bends, cuts, kinks, or any possibility of damage to insulation or conductors. Initial sag and tension shall be checked by the Contractor, after installation and within an elapsed time recommended by the manufacturer. The aerial conductors shall be a covered tree wire for the prevention of temporary faults and for raptor protection. Climbing space on the structure shall be in compliance with NESC. Where the lines pass through trees, trees shall be trimmed at least 15 feet clear on both sides horizontally and below for medium-voltage lines, and no branch shall overhang horizontal clearances. Where necessary, trees shall be removed to provide a clear right-of-way.

A primary terminal riser pole shall be provided at the existing Administration Building for the transition of the aerial system to an underground system. From the pole, primary conductors shall be routed underground to a contractor furnished pad-mounted junction box (cable terminating cabinet). The line shall enter the source side of the junction box and exit the load side underground. The load side shall consist of three 200A load-break taps. From one 200A tap, conductors shall be routed underground to supply the new 75kVA pad mounted transformer at the existing administrative building. From the second tap conductors shall be routed underground to supply power to a contractor furnished 500kVA transformer, located on the left bank of the dam. The third tap shall be reserved for future expansion to the new intake structure. Medium voltage cables shall be routed underground in a concrete encased ductbank. To cross the project site, the existing manhole and ductbank system shall be extended to the riser pole, new ducts shall be routed under the roadway bridge and along the face of the spillway, and a new underground ductbank shall be provided on the left bank. The new underground ductbank shall

be routed to the new 500kVA pad mounted transformer and generator. The 500kVA 12470V-to-480/277V transformer to be furnished and installed under this contract, shall supply power to the existing maintenance building and the new administrative building, to be provided under a separate contract.

4.0 DESIGN CRITERIA

Referenced codes and standards are minimum acceptable criteria. Administrative, contractual, and procedural features of the contract shall be as described in other sections of the RFP.

IEEE/ANSI C2 2002 NATIONAL ELECTRIC SAFETY CODE (NESC)

NFPA 70 2002 NATIONAL ELECTRICAL CODE (NEC)

5.0 DESIGN REQUIREMENTS

5.01 General Design Considerations

The design, materials, equipment and installation shall be in accordance with the requirements of the listed codes and design manuals, with the requirements of this section, and with the listed Specifications.

- (1) This project shall be 100% asbestos free. No asbestos or asbestos containing materials, in any amounts shall be allowed in the construction of this project.
- (2) There shall be zero lead content in any paints or coatings used in the construction of this project.
- (3) ~~Alignment of the new overhead distribution line is restricted to within the right of way limits identified on the RFP drawings.~~ The alignment of the new overhead distribution line shall follow the alignment of the existing overhead distribution system as close as possible. No lands out side the construction Right of Way shall be disturbed by the construction activity. The design shall minimize the amount of disturbance to existing lands required by construction within the designated Right of Way.
- (4) The design and installation of the distribution system shall comply with the requirements of the National Electric Safety Code (NESC), National Electrical Code (NFPA), local utility requirements, accepted good practice, and all other governing regulations. The Government may permit variance from these rules, if not contrary to law, for good cause shown if it finds compliance is impossible, impractical, or unreasonable.

(4.1) Aerial Distribution System

A. Line requirements shall meet or exceed the requirements of the NESC Grade B construction as identified in NESC Section 25 "Loadings for Grades B and C." These

requirements shall be used to establish the proper loading for vertical, horizontal, and transverse forces on the conductor and line supports along with the proper overload factors. These requirements are outlined in NESC Rules 250, 251, 252, and 253.

B. Structures shall be designed to withstand the appropriate loads, with appropriate safety factors included, as specified in NESC Rule 261. Where the use of guying and bracing becomes necessary; design and installation shall comply with NESC Rule 264.

C. The vertical clearances of wires shall adhere to NESC Rule 232 as a road, street or other area subject to truck traffic, unless a more stringent condition applies.

D. The horizontal clearances between conductors shall adhere to NESC Rule 235.

E. The line shall be designed and constructed to minimize adverse effects resulting from wind produced conductor vibration.

(4.2) Underground Distribution System

A. The contractor shall design all details necessary to connect the underground conduits and conductors to the existing administrative building and maintenance building.

B. The underground system shall consist of conductors, ductbanks, pad mounted junction boxes (cable terminating cabinets), manholes/vaults, pad mounted transformers, generator, and automatic transfer switch. The design shall comply with applicable sections of the NESC and shall meet the requirements shown on the RFP drawings.

5.01.1 Specifications

The Contractor shall provide a design and construction package using the guide specifications provided or referenced in this RFP. See Attachment 1 at the end of this section for additional information concerning development of specifications. Section 00890 lists the proposed technical specifications required for the project and includes any prescriptive design requirements for a particular specification section, if applicable. If any additional specifications are required, the Contractor shall identify the need in writing to the Contracting Officer. The Contractor shall provide specifications for any items not identified in the Corps' guide specifications. The Contractor shall edit the guide specifications, but edits shall conform to the specific minimum standard requirements of this RFP and are subject to approval by the Government.

A. Attached Specifications

The Table of Contents-Technical Specifications lists all of the specifications attached to these documents in full text in their entirety. The attached Section 00800 - Special Contract Requirements and Division 1 specifications shall be included as written in each design submittal and the construction set of specifications.

5.01.2 Drawings And Data

A. RFP Preliminary Drawings

Attached to this RFP is a set of the preliminary design drawings including site location map, site plans and partially completed design details that were developed based on the design criteria for this project. See Attachment A at the end of Section 00800 for a list of the RFP drawings. The RFP drawings shall be the basis for the final construction contract drawings and shall be revised and supplemented as required to complete the design. RFP drawings will be provided in Microstation Version J CADD format.

B. Design Analysis

Design analysis and calculations shall be prepared by a licensed professional engineer with experience in the design and construction of overhead and underground electrical distribution systems. In addition to the Power Coordination Study and Staking Guide, include a narrative to justify standards and methods used in the design.

(1) Power Coordination Study

A coordinated power systems study shall be performed to determine settings of adjustable protective devices and ratings of associated power fuses. A Registered Professional Engineer with demonstrated experience in power system coordination in the last three years shall do the studies. It shall be assumed that the load will include large motors in excess of 50 hp.

- Analyses shall be prepared to demonstrate that the equipment selected and systems constructed meet the contract requirements for equipment ratings, coordination, and protection.
- The report shall include a narrative describing: the analyses performed; the bases and methods used; and the desired method of coordinated protection of the power system.
- The study shall include descriptive and technical data for existing devices and new protective devices proposed. The data shall include manufacturers published data, nameplate data, and definition of the fixed or adjustable features of the existing or new protective devices.
- The report shall document utility company data including system voltages, fault MVA, system X/R ratio, time-current characteristics curves, current transformer ratios, and relay device numbers and settings; and existing power system data including time-current characteristics curves and protective device ratings and settings.

- The report shall contain fully coordinated composite time-current characteristic curves for each bus in the system, as required to ensure coordinated power system between protective devices or equipment. The report shall include recommended ratings and settings of all protective devices in tabulated form.
- The report shall provide the calculation performed for the analyses, including computer analysis programs utilized. The name of the software package, developer, and version number shall be provided.

(2) Staking Design Guide

A staking design guide shall be provided to the government before staking begins and shall include values and calculations and where applicable the appropriate mathematical models showing compliance with the NESC, other local governing regulations, and accepted good practice. These calculations, values, and models shall include but not be limited to the following values:

- Size, type, and total length of conductor used showing voltage drop for the run.
- Vertical clearances of conductors at maximum sag under the range of local conditions. This shall be indicated in a staking table or other preferred method with all design ruling spans used for the proper pole heights, span, and conductor.
- Horizontal clearance of conductors supported from the same structure.
- Maximum vertical loads applied to the pole from the conductors with ice, crossarms, insulators and other equipment mounted on the poles.
- Longitudinal/Horizontal loads. This shall be indicated on the sag and tension tables showing the tensions applied to the pole due to the span and sag of the line. The range of span lengths for this table shall be, as a minimum, from the shortest to the longest span practical and the range of temperatures shall be from the lowest to the highest temperatures the conductor will be strung and sagged.
- Transverse loading the system is subject to under local conditions.
- Conductor uplift. It shall be shown that conductor uplift has been prevented in all locations where the problem may arise.
- Maximum vibration as a result of wind produced conductor vibration.
- Strength requirements. It shall be shown that the poles, supports, and insulators will be able to withstand the vertical, horizontal, and transverse loadings at given line angles. Where the pole cannot support these loads, it shall be shown that

guying or bracing is sufficient to bear them. This may be shown with pole strength tables, pin strength tables, guying guides or other preferred methods.

C. Final Construction Drawings

The final construction drawings shall include all details required to properly define the work and shall be provided in accordance with recognized industry practice for facilities of the type being provided and in accordance with requirements of this RFP.

The detail drawings shall consist of equipment drawings, illustrations, schedules, instructions, diagrams and other information necessary to define the installation and enable the Government to check conformity with the requirements of the RFP including poles, crossarms, conductors, insulators, switches, reclosers, transformers, and generator. This shall also include detail drawings showing physical arrangement, construction details, connections, finishes, materials used in fabrication. Drawings shall be drawn to scale and/or dimensioned. Drawings shall be submitted in Microstation Version J CADD format.

5.02 Other Work in the Area.

The contractor shall coordinate with other projects and work in the area including work being done by entities other than the Corps of Engineers. Coordination shall be in conjunction with the Contracting Officer.

5.03 Permits

The Contractor is responsible for obtaining all required permits from all public and private entities, which have jurisdiction over the project including: construction within city, state, and county street and road rights - of-way; construction within railroad rights -of-way; crossings by plant or utility lines of city, county, and state roads and streets.

Attachment 1 Follows
